

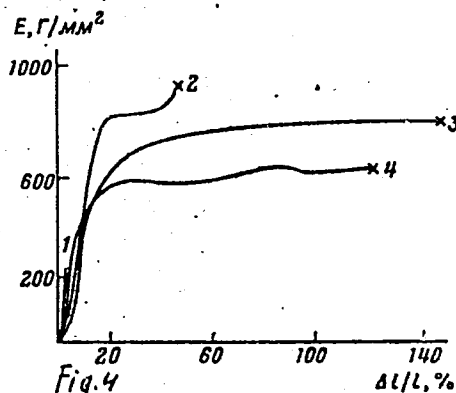
Structure and ...

21139
S/190/61/003/004/014/014
B101/B207

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University im. M. V. Lomonosov)

SUBMITTED: October 8, 1960

Fig. 4: Force-elongation diagrams at 25°C. Legend: 1) Mechanical mixture from dispersed PE and carbon black 7 : 1; 2) product of joint PE and carbon black dispersion, 7 : 1; 3) initial PE; 4) PE, dispersed without carbon black.



Card 4/4

5.3830

25272

S/190/61/003/007/016/021

11.2210

B101/B226

AUTHORS: Kargin, V. V., Plate, N. A., Litvinov, I. A., Shibayev,
V. P., Lur'ye, Ye. G.

TITLE: Processes of polymerization and grafting on newly formed
surfaces of inorganic substances

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 7, 1961,
1091 - 1099

TEXT: In previous papers (Vysokomolek. soyed., 1, 339, 1959; ibid., 1, 1713, 1959), the authors had shown that polymerization of vinyl monomers can be initiated by an intensive mechanical dispersion of solid inorganic substances. The present paper studies this effect when dispersing metals, metal oxides, and ionic salts. Because in the hitherto used vibration mill grindings of iron balls had a disturbing effect upon the polymerization processes, three new grinding devices have been constructed. (1) The monomer, the substance to be dispersed, and glass balls were filled into an ampul being fastened to the vibration mill. (2) The ampuls were fastened to the armature of an electromagnet which was fed

Card 1/5

Processes of polymerization ... 25272

S/190/61/003/007/016/021
B1G1/B226

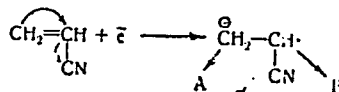
by a. c. (3) The ampuls were fastened to the coil of an electromagnetic 10-w loudspeaker. The use of vacuum and different temperatures was made possible by working with ampuls. Frequency was varied between 50 and 120 cps, the amplitude being 2-5 mm. Duration of dispersion amounted to 30 - 90 min. (A) Polymerization by means of Al_2O_3 (corundum, energy of crystal lattice 3610 kcal/mole) or Cr_2O_3 ($E_{Cr_2O_3} = 4658$ kcal/mole) was

studied with styrene, methyl methacrylate, acrylonitrile, vinyl acetate, and some organic substances of the acetaldehyde type. Intensive dispersion of these oxides in the presence of styrene or methyl methacrylate led to rapid polymerization. In the case of methyl methacrylate, a polymer having a molecular weight of 25,000 was obtained. Vinyl acetate was not polymerizable. When dispersing corundum, acetaldehyde yielded, after 2 hr, 3 - 5 % polyacetaldehyde. Also in this case, the results were not different from those obtained by J. Furukawa et al. (see below) by means of Al_2O_3 annealed at $600^\circ C$. Dispersion of corundum in acetone under exclusion of air resulted, at room temperature, in small quantities of mesityl oxide and phorone. No high yields could be obtained, since the resultant H_2O is adsorbed on the surfaces of Al_2O_3

Card 2/5

Processes of polymerization ... ²⁵²⁷² S/190/61/003/007/016/021
B101/B226

and the active centers are blocked. (B) Polymerization in the presence of Fe, Al, and Mg easily succeeded in acrylonitrile and methyl methacrylate between - 30 and + 50°C. The results did not differ from the data obtained earlier for styrene - SiO₂ and styrene - NaCl. Considering the polymerization mechanism of acrylonitrile, assumption is made that in the metal surface electrons are excited, which, at low work function ($W_{Fe} = 4.31$ ev, $W_{Al} = 4.2$ ev, $W_{Mg} = 2.74$ ev) pass over to the monomer adsorbed on the metal surface, and release the reaction according to the following scheme:



A denotes the possibility of chain growth according to anionic mechanism, P according to radical mechanism. Besides, in the presence of Fe, complex formation of Fe with nitrile groups and formation of cyclic groups is assumed for acrylonitrile. Furthermore, account has to be taken of that the metals are covered by an oxide film. On the oxide film, a grafting of the resulting polymer could appear, and separation of the Me-O bonds during

Card 3/5

Processes of polymerization ... 2-272 S/190/61/003/007/016/021
B101/B226

dispersion also could have an initiating effect. In the system Mg-methyl methacrylate, a highly swelling polymer was obtained, a metal-polymer gel, the lattice points of which consist of metal particles being bound to the polymethyl methacrylate by means of Me-O-C bonds. When treating these polymers with HCl, the molecular weight decreased (from 74,000 to 30,000 in the system with Al; from 250,000 to 160,000 in the system with Mg). Therefrom, conclusion is drawn that a hydrolysis of Me-O-C bonds had taken place. Attempts to polymerize styrene or methyl methacrylate by dispersing metallic Cr or W were unsuccessful. The too high work function of these metals is considered to be the cause of this fact. The capability of initiating polymerization thus does not depend on the absolute strength of interatomic bonds in the crystal, but on the capability of forming active centers of the electron donor- or radical type. (C) Polymerization by dispersion of salts (NaCl, KCl, CaF₂) already took place at room temperature in methyl methacrylate, acrylonitrile, styrene, and α -methyl styrene. Assumption is made that also in this case initiation takes place by transferring an electron to the monomer. The electron might be set free by ionization- or crystal defects of the F-center type. Dispersion of TiCl₃ or BeCl₂ in the presence of styrene led to its rapid

Card 4/5

Processes of polymerization ...

25272

S/190/61/003/007/016/021
B101/B226

polymerization, even at -80°C . These salts had no effect upon methyl methacrylate. In this case, the initiation of the polarizing effect of Ti^{3+} or Be^{2+} is reduced to the double bond of styrene tending toward cationic polymerization. In agreement with the experiment, monomers with electronegative substituents (methyl methacrylate) could not be polymerized. S. D. Levina, K. P. Lobanova, P. Yu. Butyagin, A. A. Berlin, K. S. Minsker and V. K. Bykhovskiy are mentioned. There are 3 figures and 21 references: 10 Soviet-bios and 11 non-Soviet-bios. The three most important references to English-language publications read as follows: J. Furukawa, T. Saegusa, T. Tsuruta, H. Fujii, T. Taitani, J. Polymer Sci., 36, 546, 1959; H. Atkins, A. Krause, J. Amer. Chem. Soc., 44, 382, 1922; M. Ueta, W. Kammig, Phys. Rev., 21, 1320, 1954; 21, 159, 1955.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University named M. V. Lomonosov)

SUBMITTED: November 19, 1960

Card 5/5

S/063/62/007/002/004/014
A057/A126

AUTHORS: Plate, N.A., Candidate of Chemical Sciences; Shibayev, V.P.
TITLE: Modification of properties of synthetic polymer materials
PERIODICAL: Zhurnal vsesoyuznogo khimicheskogo obshchestva im. D.I. Mendeleeva,
v. 7, no. 2, 1962, 147 - 153

TEXT: Problems of structural modification and the development during the last 2 - 3 years in the chemical modification of polymers are discussed in the present paper. Examples are given: Structural modifications are classified into configurational, conformational, and supermolecular types. Stereospecific synthesis is an example for the first type of isomerism, and also the so-called conversional polymerization. The latter allows regulation of chain growth and by this changes in the configuration of the macromolecule, thus modifying properties of grafted polymers. In the second type of structural modification the whole form of the macromolecule is changed and with it the physical properties of the product, as in formation of globular, or fibrous polymers. Grafted copolymers of latex and methylmetacrylate, or block-copolymers of styrene and isoprene are classical examples for the conformational modification of the same polymer.

Card 1/4

S/063/62/007/002/004/014
A057/A126

Modification of properties of synthetic

mer. Changes in supermolecular secondary structures and the relations to mechanical properties of the polymer product are still insufficiently investigated. Thus, Soviet authors observed brittleness of polyethyleneterephthalate fibers effected by the formation of thin surface layers of spheroidal aggregates on the fiber. An interesting combination of structural and chemical modification is the isomorphism in polymer crystallization. The important role of orientation on changes in physical properties can be seen particularly in the production of synthetic fibers, where modification is primarily a problem of structural changes. Copolymerization is the most widely spread method of chemical modification and is employed in two directions - in the one direction the regularity of chain structure in high melting crystalline polymers is destroyed in order to relieve processing of these materials (as for polyolefines), in the other direction low active monomers are used to prepare polymers in an "indirect manner". It is possible that in the future copolymerization will be used instead of the common preparation methods to synthesize polymers, which are hard to prepare from low molecular weight compounds. Best possibilities in modification of polymers are given principally in graft and block-copolymerization methods. The theory of modification by these methods is only at the very beginning now. Hence, thorough studies of the mechanism of these reactions were carried

Card 2/4

S/063/62/007/002/004/014
A057/A126

Modification of properties of synthetic

out in the last time. A determined orientation of the structure can be realized by anionic polymerization and condensation methods. Regulated copolymerizations occurring in particular without formation of homopolymers or without special separation of the latter are investigated at the present time, especially in preparation of grafted copolymers, by studying relations between macroproperties of these copolymers and structure of the macromolecule. Surface grafting of polymers was also developed recently. Experiments in modification of surfaces of oxides, or of metals by grafting with organic polymers were carried out by Soviet scientists in recent years and also a new method for the preparation of polymer-polymer systems of the "sandwich" type was developed. Functional reactive groups are necessary for chemical modification processes, while non-reactive polymers are required to obtain stable polymer products. Several examples (mainly Soviet investigations) are given by the present authors to demonstrate the realization of both requirements. Among these examples there are discussed transformations analogous to polymerization. Thus a new method of PVC production by alkaline hydrolysis of polyvinylsuccinimide is cited. A new type of elastomers was synthesized by introducing an amino group into the polyvinylalcohol chain. Phosphorylation was used to increase the thermal resistivity of polymers. Polymers with conjugated bonds and exceptional electrophysical properties.

Card 3/4

Modification of properties of synthetic

S/063/62/007/002/004/014
A057/A126

ties have been obtained by intermolecular splitting-off reactions in the main chain.

Card 4/4

L 12429-63 EPR/EWP(j)/EPF(c)/EWT(m)/BDS ASD Pc-4/Ps-4/Pr-4 RM/WW
 ACCESSION NR: AP3001169 S/0190/63/005/006/0932/0937

AUTHOR: Shibayev, V. P.; Plate, N. A.; Zezina, L. A.; Kargin, V. A.

TITLE: The processes of structure formation in a graft copolymer on the basis of a crystallizing polyester 74
 72

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 5, no. 6, 1963, 932-937

TOPIC TAGS: lattice formation, graft copolymer, polyester, polyhydroxypelargonate, macromolecules, polymethacrylic acid

ABSTRACT: In earlier publications the authors investigated copolymeric systems where the basic chain consisted of a crystallizing homopolymer, while the side grafts were of the noncrystallizing type. They demonstrated that the crystallization of the homopolymer was prevented, having stopped at the fibrillar type stage. The purpose of the present investigation was to find out whether in a copolymeric system consisting of a crystallizing and an amorphous polymeric components, grafted in the reverse order, a similar inhibitory effect would take place. In this case methacrylic acid/polymer formed the basic chain, while crystalline polyoxypelargonate constituted the grafted side chains. Macromolecules of polyoxypelargonate were treated with methacrylchloride, and the resulting unsaturated

Card 1/2 7

L 12/29-63

ACCESSION NR: AP3001169

2
polyester was subjected to a polymerization reaction with methacrylic acid, yielding the desired copolymer of 1:1 ratio. The latter was studied by electron microscope and x-rays, following annealing at 60-130C and was found to be amorphous. When, however, the annealing temperature was raised to 145-150C, there appeared in the side chains of the copolymer fibrillar structures with filaments of 100 Angstrom in diameter. Thus, the existence of a chemical bond between the two polymers seems to interfere with the crystallization of polyhydroxypelargonate. Thanks are given to G. S. Kolesnikov for supplying the graft copolymers. Orig. art. has: 3 figures and 3 formulas.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 06Jan62

DATE ACQ: : 01Jul63

ENCL: 00

SUB CODE: 00

NO REF SOV: 010

OTHER: 000

Card 2/2

SHIBAYEV, V.P.; PLATE, N.A.; TRAN K'YEU; KARGIN, V.A.

Structural and mechanical study of isotactic and stactic
polystyrene graft copolymers. Vysokom. soed. 6 no.1:107-
111 Ja'64. (MIRA 17:5)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

ACCESSION NR: AP4017633

S/0190/64/006/002/0231/0236

AUTHORS: Shibayev, V. P.; Plate, N. A.; Grushina, R. K.; Kargin, V. A.

TITLE: Structuration in chlorinated polyethylene and its solutions

SOURCE: Vy*sokomolekulyarny*ye sovedineniya, v. 6, no. 2, 1964, 231-236

TOPIC TAGS: polymer, polymer structure, polyethylene, chlorinated polyethylene, supermolecular structure, chlorobenzene solution, crystalline structure, gaseous crystalline state, spherulite, bundle, amorphous state, primary morphological form, ordered morphological form

ABSTRACT: A high-crystalline fraction of polyethylene was used (molecular weight of 260 000) which was obtained by removing the low-molecular fractions by boiling in carbon tetrachloride and double recrystallization in chlorobenzene. The samples were chlorinated by means of a saturated solution of chlorine at 115, 125, and 130C, under incandescent lamplight. The resulting products were either fully or partly soluble in chlorobenzene (the insoluble part was purified by methanol precipitation from toluene solutions). Polyethylene samples with a chlorine content of 3 to 50% were obtained: these were subjected to x-ray and electron microscopic studies in m-xylene solutions and in crystalline structures obtained therefrom. It was found

Card 1/2

ACCESSION NR: AP4017633

that the chlorinated polyethylene compounds obtained at 115 and 125°C were not homogeneous in their composition, the cold chlorobenzene soluble fraction containing 14.0 and 17.9% of chlorine, while the chlorobenzene insoluble fraction contained 8.2 and 7.0% of chlorine, respectively. Only at a reaction temperature of 130°C, which corresponds to the melting point of the crystalline polyethylene, did the chlorinated product become fully soluble. The samples of polyethylene containing up to 8% chlorine possessed the ability to crystallize and to form spherulites and monocrystals, while the samples with a higher chlorine content revealed structures indicating a gaseous-crystalline state. At a 50% chlorine content the polyethylene acquired an amorphous structure. Orig. art. has: 1 chart, 2 tables, 8 electron-microscope pictures, and 1 x-ray picture.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 01 Nov 62

DATE ACQ: 23 Mar 64

ENCL: 00

SUB CODE: CH

NO REF SOV: 008

OTHER: 010

Card 2/2

L 25105-65 ENT(m)/EPF(c)/EPR/EMP(j)/T Pc-L/Pr-L/Ps-L RPL WW/RM
ACCESSION NR: AP5001767 S/0063/64/009/006/063"/0653

AUTHOR: Plate, N. A. (Candidate of chemical sciences); Shibayev, V. P.
(Candidate of chemical sciences)

TITLE: Structural formations and crystallization in irregular polymer systems

SOURCE: Vsesoyuznoye khimicheskoye obshchestvo. Zhurnal, v. 9, no. 6, 1964, 637-653

TOPIC TAGS: submolecular structural polymer formation, irregular polymer system, polymer crystallization, branched polymer, grafted polymer, linear copolymer, polymer isomorphism

ABSTRACT: This is a survey of known data organized from the following point of view: destruction of the regular structure of polymer chains will frequently lead to considerable changes in crystallizability of the polymer, which will be evidenced in its physico-mechanical properties. Determination of the specific relationship between the degree of regularity or non-regularity in the structure of the polymer chains, their crystallizability and the character of the submolecular structures which determine the useful features of the polymer would make it pos-

Card 1/3

L 25105-65

ACCESSION NR: AP5001767

sible to direct the crystallization processes of polymers and create the required submolecular structures. The theory of polymer crystallization with irregular structure of the chain [Flory, J. Chem. Phy. 38, 17, 223 (1949)] is applied to systems with branched or grafted polymers, by considering the branches as a secondary component of the system, and is mathematically developed. These formulas may be used to determine the crystallizability of the polymer and to calculate the melting temperatures of copolymers in a limited range of compositions. Crystallization of branched polymers and graft polymers, of linear copolymers (statistic, block, stereoblock and regularly alternating) and isomorphic substitution in copolymers is discussed in detail. The introduction of a few butyl or amyl groups into regular branched polymers will hinder crystallization for steric reasons and reduce the melting temperature. In irregular branched polymers, short branches are assumed to reduce melting temperature and crystallizability; long, frequently occurring branches may permit structural formations. In graft copolymers the crystallization properties of either component have to be considered; molecularly grafted and heterogeneously grafted polymers are discussed. Crystallization of the former is assumed to be determined by the length and frequency of backbone and branches. While irregular polymers crystallize

Card 2/3

L 25105-65
ACCESSION NR: AP5001767

rarely and only for a limited range of polymer component (if the inhibitor does not exceed 20-30 mol%) crystallization may occur if isomorphic substitution can be accomplished. The isomorphism of monomer members differs from the known forms in that it refers to a specific part of the molecule rather than the whole, i.e. to members linked by chemical bonds. According to the classification by Natta, 3 types of such isomorphism have been detected so far. Their influence on polymer properties is discussed. Orig. art. has: 10 formulas and 1 figure

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

SUB CODE: MT, GC

NR REF SOV: 050

OTHER: 148

Card 3/3

SHIBAYEV, V. P.; PLATE, N. A.; KARGIN, V. A.

"Processes of structure formation in some long chain polyvinyl esters."

report submitted for 3rd European Conf on Electron Microscopy, Prague, 2-3 Aug-3 Sep 1964.

Chair Highmolecular weight compounds, Moscow State Univ.

39295-65 EWT(1)/EWA(j)/EWA(b)-2 JK
ACCESSION NR: AP5011331

UR/0216/64/000/004/0512/0524

AUTHOR: Kochetkov, N. K.; Budovskiy, E. I.; Shibayev, V. N.

TITLE: Chemical methods of approaching the study of nucleic acids and nucleotide
Co-enzymes

SOURCE: AN SSSR. Izvestiya. Seriya biologicheskaya, no. 4, 1964, 512-524

TOPIC TAGS: ribonucleic acid, nucleic acid, enzyme, biochemistry

Abstract: The article contains a comprehensive summary of work done in the authors' laboratory over several years in using the method of chemical modification of mono- and poly-nucleotides to determine the primary structure of RNA, and the method of modification of nucleoside diphosphate sugars to study carbohydrate metabolism and the possibility of selective blocking of the various routes of carbohydrate transformation.
Orig. art. has 9 formulas.

ASSOCIATION: Institut khimii prirodnikh soedineniy (Institute for Chemistry of Natural Compounds)

SUBMITTED: 20Jan64

ENCL: 00

SUB CODE: LS

NO REF SOV: 013

OTHER: 027

JPRS

Card 1/1

D 53002-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RM

ACCESSION NR: AP5010837

UR/0020/65/161/004/0067/0870

AUTHOR: Kargin, V. A. (Academician); Plate, N. A.; Kh'yeu, T.; Shibayev, V. P.

TITLE: Thermodynamic characteristics of deformation of chlorinated gutta-percha in the highly elastic state

SOURCE: AN SSSR. Doklady, v. 161, no. 4, 1965, 867-870

TOPIC TAGS: deformation, latex, natural rubber, vulcanization, chlorination, thermodynamic characteristic

ABSTRACT: Correlation between structure irregularity of gutta-percha in the highly elastic state and its mechanical behavior was studied. Samples of pure, chlorinated, and vulcanized gutta-percha were stretched at a rate of 1 mm per minute, and at 60°, 85°, 100°, and 120°C. Effect of structure irregularity was followed on the basis of changes in internal energy and entropy per unit volume and unit of elongation. The change in fusion temperature was also followed. Structure irregularity is proportional to the amount of chlorine and sulfur introduced into gutta-percha. A 100% elongation of chlorinated gutta-percha results in an increase in the

Card 1/2

L 53002-65

ACCESSION NR: AP5010837

internal energy and entropy. For pure gutta-percha there is a decrease in entropy during elongation. Chlorination of gutta-percha causes a slight change in the transition temperature; it is equal to -55°C for pure gutta-percha and to -35°C for gutta-percha containing 13.5% chlorine. Orig. art. has: 3 figures and 2 formulas.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 06Oct64

ENDL: 00

SUB CODE: MT, TD

NO REF SOV: 003

OTHER: 004

gah
gard 2/2

L 1140-66 EWT(m)/EPF(c)/EWP(j) RM
ACCESSION NR: AP5022594

UR/0190/65/007/009/1520/1525
678.01:53+678.481

AUTHORS: Plate, N. A.; Tran Kh'yeu; Shibayev, V. P.; Kargin, V. A.

TITLE: Structural transformation in gutta-percha due to disturbance of the chemical regularity of the chain

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 9, 1965, 1520-1525

TOPIC TAGS: rubber, resin, polymer, gutta percha, chlorinated polymer, polyisoprene, chlorine, bromine

ABSTRACT: The influence of the degree of irregularity in polymer chains on the crystallization, structure formation, and certain physico-chemical properties of polymers was studied. The substance investigated was trans-1,4-polyisoprene (gutta-percha). Irregularity of the chain was realized by partial chlorination and bromination. Halogenation was accomplished under homogeneous and heterogeneous conditions. X-ray analysis of halogenated gutta-percha specimens was carried out, and the results are given in tabular form. The effect of halogenation on the melting point has been investigated and the results are given graphically in Fig. 1 on the Enclosure. It was found that introduction of 5-6 atoms of

Card 1/3

L 1140-66

ACCESSION NR: AP5022594

chlorine or 3-4 atoms of bromine per 100 atoms of carbon leads to a lowering of the melting point temperature of gutta-percha in agreement with Flory's theory. An increase in the Cl or Br content, up to 30 or 40% respectively, causes complete amorphization of gutta-percha. The introduction of more than 12% Cl facilitates the α to β transition in gutta-percha. Orig. art. has: 2 tables, 1 graph, and 2 equations. 2

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 020ot64

ENCL: 01

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SUB CODE: 00

NO REF SOV: 006

OTHER: 004

Card 2/3

L 1140-66

ACCESSION NR: AP5022594

ENCLOSURE: 01

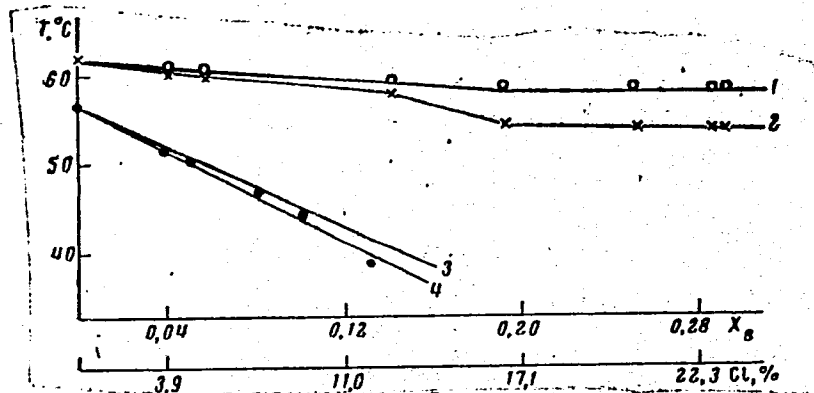


Fig. 1.

Dependence of melting point of gutta-percha (T_{mp} and T'_{mp}) on the number of chlorinated linkages (X_B) for hetero and homogeneous chlorination of specimens (X_B - mole fraction of chlorinated linkages in gutta-percha). 1, 2 - T_{mp} and T'_{mp} - of heterogeneously chlorinated specimens, determined before and after the melting of α - gutta-percha respectively; 3 - theoretical curve calculated after Flory; 4 - experimental curve

Card 3/390

L 1141-66 EWT(m)/EPF(c)/EWP(j) RM
ACCESSION NR: AP5022595

UR/0190/65/007/009/1526/1528
678.01:53+678.76

AUTHORS: ⁴⁴Tran Kh'yeu; ⁴⁴Plate, N. A.; ⁴⁴Shibayev, V. P.; ⁴⁴Margin, V. A. 30
28
B

TITLE: Effect of the chemical irregularity of trans-1,4 polyisoprene¹⁵ on its structural and mechanical properties

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 9, 1965, 1526-1528

TOPIC TAGS: polyisoprene, polymer, resin ⁴⁴rubber, crystalline polymer

ABSTRACT: This investigation is an extension of the work on gutta-percha reported previously by the authors (Vysokomolek. soyed. 6, 231, 1964). Mechanical properties and electron micrographs of the following chlorinated and brominated specimens of gutta-percha containing 5.8, 14.8, 26, and 52% of Cl and 13.3, 16.5, 20.2, and 27.2% of Br respectively were determined. The mechanical properties were studied by means of a Polyani dynamometer. The experimental results are shown in Figures 1 and 2 on the Enclosure. It was found that the transition from the regular to irregular structure leads to degeneration of spherulite structure and to formation of a ribbon-like structure typical of rubbery polymers. Orig. art. has: 2 graphs and 11 photographs.

Card 1/3

L 1111-66

ACCESSION NR: AP5022595

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im M. V. Lomonosova (Moscow
State University) 44

SUBMITTED: 020ct64

ENCL: 01

SUB CODE: 03

NO REF SOV: 007

OTHER: 002

Card 2/3

L 1141-66

ACCESSION NR: AP5022595

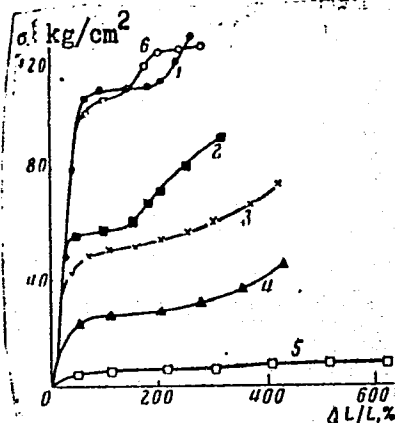


Fig. 1. Elongation curves for gutta-percha and chlorogutta-percha films at 20C. 1- gutta-percha; 2 - 5- chlorogutta-percha containing 5.8, 14.8, 26.0, 52.0% of Cl respectively; 6- gutta-percha film (5.8 Cl) after annealing

Card 3/3

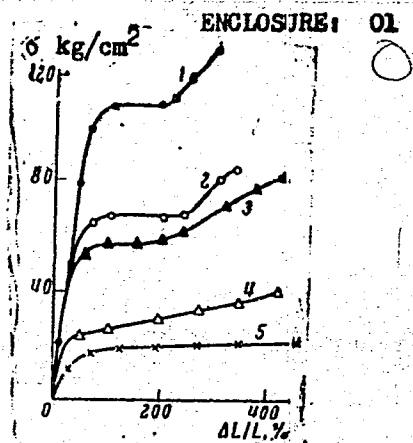


Fig. 2. Elongation curves for gutta-percha at 20C. 1- gutta-percha; 2 - 5- bromogutta-percha containing 13.3, 16.5, 20.2, 27.2% of Br respectively

1 004-00 EWT(m)/EWP(j) RM

ACC NR: AP5025952

SOURCE CODE: UR/0190/65/007/010/1665/1666

AUTHOR: Tran Kh'yeu; Plate, N.A.; Shibayev, V.P.; Kargin, V.A.

ORG: Moscow State University im. M.V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Effect of spherulite size on the nature of the deformation of gutta percha films

SOURCE: Vysokomolekulyarnyye soyedineniya, v.7, no. 10, 1965, 1665-1666.

TOPIC TAGS: rubber, solid mechanical property, elastic deformation, tensile stress, elongation, POLYMER, SYNTHETIC RUBBER

ABSTRACT: The dependence of mechanical properties of gutta percha films on the size of the spherulite structures in the polymer was examined using gutta percha of about 30,000 molecular weight. Spherulite formations with diameters from 1.5 mm to 30 microns were obtained by controlling the rate of solvent evaporation.

UDC 678.01:53 + 678.481

Card 1/2

L 8364-66

ACC NR: AP5025952

A change in the size of the spherulites greatly affected the deformation characteristics on stretching. Films containing the large 1.5 mm spherulites are brittle and weak. As the spherulite size is reduced to 20-30 microns the material becomes stronger, exhibiting high tensile strengths and large relative elongations. Orig. art. has: 1 figure.

SUB CODE: MT/ SUBM DATE: 02Oct64/ ORIG REF: 003 / OTH REF: 002

GC
Card 2/2

L 44432-66 EWT(m)/EWP(t)/ETI IJP(c) DS/JD/WW/JG/RM
ACC NR: AP6024293 (✓) SOURCE CODE: UR/0075/66/021/007/0874/0876

AUTHOR: Paley, P. N.; Karalova, Z. K.; Shibayev, N. P.; Pyzhova, Z. I.

ORG: none

TITLE: Separation of ionium ($^{230}_{90}\text{Th}$) from uranium, protactinium, iron, manganese, and europium by cation exchange

SOURCE: Zhurnal analiticheskoy khimii, v. 21, no. 7, 1966, 874-876

TOPIC TAGS: ionium, iron, uranium, protactinium, manganese, europium, cation exchange, thorium isotope

ABSTRACT: A method has been suggested for separating ionium (thorium 230 isotope) from U, Pa, Fe, Mn, and Eu in an 0.1 N solution of H_2SO_4 by a KU-2/cation-exchange resin. The method is based on separate extraction of absorbed elements: first U, Fe, Mn, Eu, and Pa and extracted by a 2 N solution of HNO_3 , then the resin is washed with a 1 N solution of H_2SO_4 to completely remove protactinium. Ionium is extracted by a saturated ammonium carbonate solution and measured radiometrically.

Card 1/2

UDC: 543.544

L 44432-66

ACC NR: AP6024293

The mean yield of ^{230}Th is 88%. Orig. art. has: 3 figures. [Based on authors' abstract] [NT]

SUB CODE: 07/ SUBM DATE: 05Jun65/ ORIG REF: 002/ OTH REF: 004

Card

2/2

SHIBAYEV, V.T.

Karaganda Basin coal miners greet Miner's Day by new labor victories.
Ugol' 34 no.8:9-11 Ag '59. (MIRA 12:12)

1.Nachal'nik kombinata Karagandaugol'.
(Karaganda Basin--Coal mines and mining)

SHIBAYEV, V. T.

Blasting operations in French coal mines. Mast. ugl. 8
no. 12:26 D '59. (MIRA 13:4)

1. Nachal'nik kombinata Karagandaugol'.
(France--Mining engineering)

SHIBAYEV, YE.

Tractors - Repairing

Repair of tractor parts. MTS 12 No. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, August 1958. Unclassified.
2

ARKHIPOV, M.S.; KOVALENKO, A.G.; SHIBAYEV, Ye.N., mekhanik snegouborochnoy mashiny

Progressive organization of snow removal. Put' i put.khoz. 10
no.1:11-13 '66. (MIRA 19:1)

1. Zamestitel' nachal'nika distantzii puti, stantsiya Kamensk-Ural'skiy Sverdlovskoy dorogi (for Arkhipov). 2. Nachal'nik stantsii Kamensk-Ural'skiy, Sverdlovskoy dorogi (for Kovalenko).

SHIBAYEV, Yu.

Electronic machines for banks. Den. i kred. 16 no. 7:55-62 J1 #58.
(MIRA 11:7)

(Electronic calculating machines)
(Banks and banking--Accounting)

MILLER, A.I.; SHIBAYEV, Yu.L.

Electromagnetic device for measuring the thickness of layers of
bimetallic products. Zav. lab. 30 no.9:1139-1141 '64.
(MIRA 18:3)

LITVINENKO, N.M.; SHIBAYEV, Yu.V.

Some rare birds of the southern Maritime Territory. Ornitologia
no. 7: 115-121 '65. (MIRA 18:10)

Shubov, Z. K.

PHASE I BOOK EXPLOITATION SOV/5743

14-

Akademiya nauk SSSR. Mezhdunarodnyy komitet po provedeniyu
Mezhdunarodnogo geofizicheskogo goda. V, razdel programy MGG:
Ionosfera.

Issledovaniya ionosfery; sbornik stat'ey (Ionospheric Researches;
Collected Articles. No. 3) Moscow, Izd-vo AN USSR, 1960.
100 p. 2,000 copies printed.

Resp. Ed.: N. V. Mednikov, Candidate of Physics and Mathematics;
Ed.: L. A. Trofimova; Tech. Ed.: T. V. Polyakova.

PURPOSE : This IGY publication is intended for geophysicists,
astrophysicists, and other scientists concerned with the
ionosphere and radio atmospherics.

COVERAGE: The collection of articles contains the results of
investigations on the ionosphere and radio atmospherics, based
chiefly on IGY observational data from USSR stations. The
articles may be grouped into the three following categories:

Card 1/5

Ionospheric Researches; Collected (Cont.)

SOV/5743

14

1) studies of the morphology and physics of both quiet and perturbed ionospheres; 2) methodology of evaluating absorption and drifts in the ionosphere; and 3) questions on the use of ionospheric observations for practical purposes. No personalities are mentioned. English abstracts and references follow each article.

TABLE OF CONTENTS:

Foreword

Shapiro, B. S. An Investigation of the Distribution of Ionization With Height

5

Kossenikh, V. N. Certain Peculiarities in the Geographic Distribution of the Maximum Electron Concentration in the F-2 Layer Over the Urals, Siberia, the North Caucasus, and Soviet Central Asia (1957-1958)

7

18

Card 2/5

| | | |
|---|----------|----|
| Ionospheric Researches; Collected (Cont.) | SOV/5743 | |
| Kerblay, T. S., and Ye. M. Kovalevskaya. Correlation of foF2 With Solar Activity Indices | | 22 |
| <u>Driatskiy, V. M.</u> Processes in the Lower Ionosphere in High Latitudes During the Solar Flare of February 23, 1956 | | 27 |
| Fel'dshteyn, Ya. I. The Nocturnal E-Layer According to Observations at the Dikson Island Observatory | | 34 |
| Pankratova, N. S. Irregular Phenomena in the F-Region of the Ionosphere According to Observations at the Dikson Island Observatory | | 40 |
| Cherenkova, Ye. P. Certain Regularities in the Behavior of the Lower Ionosphere Over Dikson Island | | 51 |
| Gorbushina, G. N. On the Use of Single Reflections for Evaluating Absorption in the Ionosphere According to Observations at Dikson Island | | 60 |

Card 3/5

| | | |
|---|-----------|----|
| Ionospheric Researches; Collected (Cont.) | SOV/5743. | |
| Struin, O. N., and Ya. I. Fel'dshteyn. Nondeviating Absorption of Radio Waves in the Auroral Zone | | 66 |
| Gusev, V. D., and S. F. Mirkotan. On Certain Anomalies During an Investigation of Ionospheric Drifts | | 77 |
| Rapoport, Z. Ts. On the Question of Determining the M3000 Coefficient | | 83 |
| Lilchter, Ya. I., and G. I. Terina. Certain Results on Investigating the Intensity of Radio Atmospherics (Strays) at Moscow | | 90 |
| Rodionov, Ya. S. A Possible Method of Determining Effective Recombination Coefficients and the Rate of Ionization in the Ionosphere | | 95 |
| Zakharov, V. I., and <u>Z. K. Shibayev</u> . Effective Recombination | | |

Card 4/5

Ionospheric Researches; Collected (Cont.)

SOV/5743

Coefficient in the Ionosphere According to Observations
at Dikson Island Observatory

100

AVAILABLE: Library of Congress

Card 5/5

JA/dwm/jw
11-7-61

RYBAKOV, B.V. Prinsipali uchastiye: TOLOKONNIKOV, M.I.; BASHMACHNIKOV,
S.I.; SMIRNOV, A.K.; KHOMUTOV, A.I.; SHAMANINA, V.I.; SHIBAYEV,
Z.K. BABAKOV, N.A., doktor tekhn.nauk, red.; MAZALOV, N.D.,
kand.tekhn.nauk, red.; SOBOLEVA, N.M., tekhn.red.

[Automatic and remote control in the national economy] Avtomatika
i telemekhanika v narodnom khoziaistve. Pod red. N.A.Babakova i
N.D.Mazalova. Moskva, Vses.in-t nauchn.itekhn.informatsii, 1960.
226 p. (MIRA 13:10)

(Automatic control)

(Remote control)

SHIBAYEVA, A.N. (Moskva)

Role of semiprofessional medical personnel of an urban maternity
home in the hygienic preparation of pregnant women and parturients.
Med.sestra 17 no.4:45-47 Ap '58. (MIRA 12:10)
(OBSTETRICAL NURSING)

SHIBAYEVA, A.N. (Moskva)

"Lecture course for pregnant women" Reviewed by A.N.Shibaeva.
Fel'd. 1 akush. 23 no.1:62-63 Ja '58. (MIRA 11:3)
(PRENATAL CARE) (PUERPERIUM)

SHIBAYEVA, A.N. (Moskva)

"Talks on the psychological preparation of women for childbirth"
by N.I. Mamontov. Fel'd. i akush. 23 no.9:62-64 'S 58 (MIRA 11;10)
(CHILDBIRTH--PSYCHOLOGY)

KARMANOVA, Ye.G.; SHIBAYEVA, A.N.

Forms of health education in a village. Med.sestra 19 no.1:30-33
Ja '60. (MIRA 13:5)

1. Tsentral'nyy nauchno-issledovatel'skiy institut sanitarnogo
prosveshcheniya Ministerstva zdravookhraneniya SSSR, Moskva.
(HEALTH EDUCATION)

SHIBAYEVA, A.N.

Manual for lessons on the psychoprophylactic preparation of parturients
for childbirth. Med.sestra 19 no.3:41 Mr '60. (MIRA 13:5)
(CHILDBIRTH--PSYCHOLOGY)

SHIBAYEVA, A.N. (Moskva)

Survey of health education literature on problems of health
protection for women. Sov. zdrav. 19 no.3:85-87 '60.
(MIRA 14:6)

(WOMEN—HEALTH AND HYGIENE)

SHIBAYEVA, A.N. (Moskva)

Hygienic training of pregnant women. Sov. zdrav. 20 no.6:16-
20 '61. (MIRA 14:7)

(PRENATAL CARE)

LAGUTINA, V.Ya.; SHIBAYEVA, A.N.

Labor without pain. Med. sestra 20 no.11:63-64 N '61. (MIRA 15:2)

(LABOR (OBSTETRICS))

SHIBAYEVA, A. N. (Moskva)

Some forms of propaganda for contraceptives. Fel'd. i akush. 27
no. 5:50-52 My '62. (MIRA 15:7)

(CONCEPTION--PREVENTION)

MIKHAYLOVA, V.N., vrach; SHIBAYEVA, A.N., vrach

Dresden hygiene museum. Zdorov'e no.9:22 S '62.
(DRESDEN—MEDICAL MUSEUMS)

(MIRA 15:9)

MIKHAYLOVA, V.N.; SHIBAYEVA, A.N.

Organization of sanitary education in the German Democratic
Republic. Med. sestra 22, no. 1: 57-60 Ja '63. (MIRA 16:7)
(GERMANY, EAST—HEALTH EDUCATION)

L 15548-66 EWT(1)/EWT(m)/EEC(k)-2/ETC(F)/EWG(m)/EWP(t)/EWP(b) IJP(c) RIW/JD

ACC NR: AP6002079

SOURCE CODE: UR/0139/65/000/006/0039/0042

AUTHOR: Shibayeva, A. V.

ORG: Belorussian State University im. V. I. Lenin (Belorusskiy gosuniversitet)

TITLE: Piezoeffect in crystalline selenium

SOURCE: IVUZ. Fizika, no. 6, 1965, 39-42 and insert facing page 39

TOPIC TAGS: piezoelectricity, selenium rectifier, crystallization

ABSTRACT: This is a continuation of an earlier investigation by the author (Izv. vuzov SSR, Fizika, no. 4, 1964), in which the piezoelectric constants of selenium rectifier discs were investigated. The present article is devoted to a metallographic investigation of the structure of a selenium layer on shop-produced discs without an upper contact electrode. The results show that when the amorphous selenium is heat treated above 120°C, a texture is produced on its surface, consisting of dendrite crystallites of two types, which differ somewhat

Card 1/2

L 15548-66

ACC NR: AP6002079

in their properties. When an electrode (copper, silver, cadmium, tin, and zinc) was deposited on such a surface and the piezoelectric properties of the assembly tested, it was found that the highest piezoelectric voltage is produced by samples with a zinc electrode. Addition of bromine, iodine, and chlorine increases the rate of transformation of the amorphous selenium into the crystalline phase, and thus contributes to the formation of oriented crystals and to the piezoelectricity. Production of a p-n junction on the rectifier had no effect on the piezoeffect. The piezoeffect is greatly enhanced by the addition of the halogens. Author thanks Professor N. F. Kunin for help and valuable advice. Orig. art. has: 2 figures

SUB CODE: 09 SUBM DATE: 25Apr64/ ORIG REF: 005/ OTH REF: 003

Card

2/2

L 36518-56 EWT(m)/EWP(t)/ETI IJP(c) RDW/JD
ACC NR: AP6013459 SOURCE CODE: UR/0139/66/000/002/0051/0054

AUTHOR: Shibayeva, A. V.

ORG: Belorussian State University im. V. I. Lenin (Belorusskiy gosuniyversitet)

TITLE: Investigation of the temperature dependence of the piezoelectric effect in selenium rectifier elements

SOURCE: IVUZ. Fizika, no. 2, 1966, 51-54

TOPIC TAGS: selenium rectifier, piezoelectric property, temperature dependence, elemental halogen, pressure effect

ABSTRACT: This is a continuation of earlier work by the author (Izv. vuzov SSSR, Fizika, no. 6, 39, 1965) where it was shown that a layer of selenium containing one of the halogens (Br, Cl, or I) as an impurity, exhibits a piezoelectric effect, whereas selenium without impurity exhibits none. To determine the role played by the impurities in this phenomenon, the author investigated the temperature dependence of the piezoelectric effect in commercially produced selenium discs containing bromine. A special setup was developed to apply pressure to the disc and to measure the resultant voltage pulse. The measurements were made under dynamic loading in the temperature range from -90C to +80C. The temperature was varied at a rate of 1°C in 5 - 6 minutes. The results show that on dropping from room temperature to -94C and then rising from -94C to -10C, the piezoelectric emf increases, reaching a maximum at -10C, after which it decreases rapidly with further increase of temperature. The

Card 1/2

L 07927-67 EWT(m)/EWP(t)/ETI IJP(c) DS/JD/WW/JG/RM
ACC NR: AP6033383 (✓) SOURCE CODE: UR/0075/66/021/008/0950/0953

17
B

AUTHOR: Karalova, Z. K.; Shibayeva, N. P.; Pyzhova, Z. I.

ORG: none

TITLE: Express method for separating ionium (Th^{230}) from uranium sulfate solutions
— 27 — 27

SOURCE: Zhurnal analiticheskoy khimii, v. 21, no. 8, 1966, 950-953

TOPIC TAGS: anion exchange resin, express method, rapid method, ionium separation, cation exchange resin, radiometric determination, uranium sulfate, thorium isotope

ABSTRACT: Data on the absorption of Th^{230} , U, Pa, Po, Zr, rare earths, Fe, and Mn on sorbents depending on the concentration of sulfuric acid are given, and a rapid method developed for ionium determination in sulfuric acid uranium solutions is described. Ionium is separated from a number of other elements in 0.05—1 N H_2SO_4 on a AB-17 anion-exchange resin, then the filtrate is passed through KY-2 cation-exchange resin. The elements sorbed together with ionium are removed by 2 N HNO_3 , then ionium is eluted with a saturated ammonium carbonate solution and determined radiometrically. The extraction percent is

Card 1/2

UDC: 543.52

L 07927-67

ACC NR: AP6033383

about 80% of Th²³⁰. One determination takes 2 hr. Orig. art. has: 4 figures and 1 table. [Authors' abstract]

SUB CODE: 07/ SUBM DATE: 23Apr65/ ORIG REF: 004/ OTH REF: 014/

Card 2/2

vmb

PALEY, P.N.; KARALOVA, Z.K.; SHIBAYEVA, N.P.; FYZHOVA, Z.I.

Determination of ionium and the total of thoeium isotopes in
uranium materials. Zhur. anal. khim. 21 no. 1:126-128 '66
(MIRA 19:1)

NEKRASHEVICH, I.G.; TAUMIN, D.A.; SHIBAYEVA, A.V.

Effect of the pressure on the resistance and capacitance of
rectifying cells. Inzh.-fiz.zhur. no.7:102-106 J1 '58.

(MIRA 11:8)

1. Belorusskiy gosudarstvennyy universitet im. V.I. Lenina,
Minsk.

(Selenium cells) (Electronic measurements)

AUTHORS: Sirota, N. N., Shibayeva, A. V. S/170/59/002/10/009/020
B115/B007

TITLE: The Occurrence of Dislocations in Single Crystals of Silicon

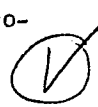
PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1959, Vol 2, Nr 10,
pp 57-61 (USSR)

ABSTRACT: In the present paper an experiment is described, which was undertaken with a view of determining the orientation and, at the same time, also the occurrence, the character, and the density of dislocations in a silicon single crystal by means of the etching method. As etching agent, aqueous solutions of KOH and NaOH with a concentration of from 20 to 40% were used. The production of the samples is described. At every section the orientation of crystallographic directions was determined by means of the "epigram" (diffraction pattern) method with an accuracy of up to 1°. Microphotographs of the surfaces of silicon after etching in a 40% aqueous NaOH-solution with different duration of the etching process and at different angles α formed by the (111) plane with the section (Fig 1) as well as a microphotograph and an "epigram" of a thin section of the silicon surface after etching for 25 minutes in a 30% aqueous NaOH-solution (Fig 2) are given. The microphotographs of the

Card 1/2

The Occurrence of Dislocations in Single
Crystals of Silicon

S/170/59/002/10/009/020
B115/B007

silicon surfaces after etching in a mixture of hydrofluoric acid and nitric acid (1:2) are also given (Fig 3). The shape and the appearance of the etch patterns are due to dislocations and depend on the crystallographic orientation of the micro-section plane. There are 3 figures and 3 references, 1 of which is Soviet. 

ASSOCIATION: Belorusskiy gosudarstvennyy universitet im. V. I. Lenina,
g. Minsk (Belorussian State University imeni V. I. Lenin,
City of Minsk)

Card 2/2

L 14359-65 EWT(m)/EWP(t)-EWP(b) IJP(c)/AFWL/SSD/ASD(a)-5/AS(mp)2/ESD(t)
ACCESSION NR: AP4043871 JD S/0139/64/000/004/0101/0104

AUTHOR: Shibayeva, A. V.

TITLE: Piezoelectric properties of selenium rectifying elements

SOURCE: IVUZ. Fizika, no. 4, 1964, 101-104

TOPIC TAGS: piezoelectric effect, piezoelectric modulus, selenium rectifier, p-n junction

ABSTRACT: Ballistic galvanometer tests were made in compression and in tension on production-type selenium rectifier discs of different shapes and dimensions. The test procedure and equipment are described briefly. The piezoelectric charge produced on the disc electrodes under deformation was found to be a linear function of the mechanical stress up to 1000 kg/cm², beyond which linearity is violated. In addition, the piezoelectric charge produced in compression was lower than that produced in tension, the anisotropy

Card 1/4

L 14359-65

ACCESSION NR: AP4043871

2

varying with the type of disc. The piezoelectric constant was $(1-5) \times 10^{-6}$ cgs esu with the mechanical force applied parallel to the electrical axis and dropped to $(1-10) \times 10^{-9}$ cgs esu for a perpendicular force. "The author thanks Prof. N. F. Kunin for suggesting the research topic and for valuable advice." Orig. art. has: 3 figures and 6 formulas.

ASSOCIATION: Belorusskiy gosuniversitet imeni V. I. Lenina (Belo-russian State University).

SUBMITTED: 31Jan63

ENCL: 02

SUB CODE: EM, EE

NO REF SOV: 001

OTHER: 002

Card 2/4

L 14359-65
ACCESSION NR: AP4043871

ENCLOSURE: 01

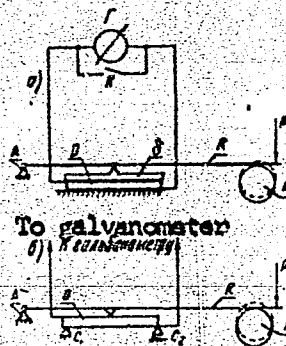
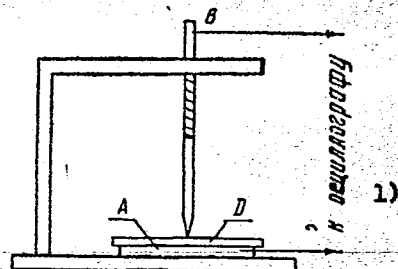


Fig. 1. Left - stand for mounting the disc. A - lower electrode, B - upper electrode, D - selenium cell, 1) - to oscilloscope

Right - installation for measurement of piezoelectric constant of selenium cell. top - compression, bottom - flexure

Card 3/4

L 14359-65
ACCESSION NR: AP4043871

CIA-RDP86-00513R001549410004-3

ENCLOSURE: 02

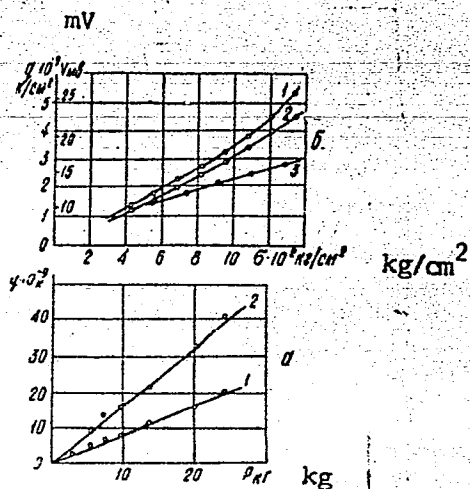


Fig. 2. Dependence of piezoelectric charge on the load under compression deformation.

1 - loading; 2 - unloading

Dependence of piezoelectric charge on the load in flexure

1 - loading, 2 - unloading, 3 - dependence of piezo-emf on the mechanical stress in flexure

Card 4/4

SHIBAYEVA, A.V.

Piezoelectric effect in polycrystalline selenium. Izv. vys.
ucheb. zav.; fiz. 8 no.6:39-42 '65. (MIRA 19:1)

1. Belorusskiy gosudarstvennyy universitet imeni V.I. Lenina.
Submitted April 25, 1964.

ACC NR: AP6034978 (M) SOURCE CODE: UR/0075/66/021/009/1133/1135

AUTHOR: Karalova, Z. K.; Shibayeva, N. P.; Pyzhova, Z. I.

ORG: none

TITLE: Photometric analysis of thorium traces using arsenazo III in preparations containing large amounts of zirconium and uranium

SOURCE: Zhurnal analiticheskoy khimii, v. 21, no. 9, 1966, 1133-1135

TOPIC TAGS: uranium, resin, thorium, zirconium, ion exchange resin, anionite, photometric analysis, trace analysis

ABSTRACT: The ion exchange separation of thorium from uranium and zirconium is performed using AB-17 anion exchange resin in 1 N H_2SO_4 . Under these conditions, thorium, unlike uranium and zirconium, is not absorbed by the resin but passes into the filtrate in the form of the neutral complex $[\text{Th}(\text{SO}_4)_2]^0$. A description is given of a method to determine thorium by using arsenazo III in 0.5 N H_2SO_4 + 0.5 N HCl after its separation from zirconium in amounts 10,000

Card 1/2

UDC: 543.70

ACC NR: AP6034978

times greater and uranium in amounts 50,000 times greater using AN-17 anion exchange resin in 1 N H_2SO_4 . Orig. art. has: 2 figures and 2 tables. [GC]

SUB CODE: 07, 08, 20/SUBM DATE: 31Aug65/ ORIG REF: 003/
OTH REF: 004/

Card 2/2

ACC NR: AP6016302 (N) SOURCE CODE: UR/0075/66/021/001/0126/0128
AUTHOR: Paley, P. N.; Karalova, Z. K.; Shibayeva, N. P.; Pyzhova, Z. I.
ORG: none
TITLE: Determination of ionium and total thorium isotopes in uranium
materials
SOURCE: Zhurnal aneliticheskoy khimii, v. 21, no. 1, 1966, 126-128
TOPIC TAGS: isotope separation, ionium, thorium, uranium compound,
quantitative analysis, *RADIOISOTOPE, CHEMICAL PURITY*
ABSTRACT: The article reports a method for separating and purifying
thorium isotopes, based on precipitation of calcium oxalate and anion
exchange in a hydrochloric acid medium. The completeness of the
precipitation of the thorium isotopes on the calcium oxalate, with a
Th:U ratio of 1:40,000, was confirmed by experiments with synthetic
mixtures. The radiochemical purity of the Th²³⁰ (ionium) separated out
was confirmed by data from alpha-spectrometric analysis. The yield of
the Th²³⁰ was 81-95%. As an example of the method, the article describes
the separation of thorium isotopes from solid samples. Orig. art. has:
1 table.
SUB CODE: 18.07/ SUBM DATE: 08Jun64/ ORIG REF: 008 UDC: 543.70
Card 1/1

①
L 39557-46 ENT(1)/ENT(2)/ENP(t)/EII IJP(c) JD/CD
ACC NR: AP6008780 SOURCE CODE: UR/0115/66/000/001/0057/0061

AUTHOR: Orlova, M. P.; Kats, G. A.; Astrov, D. N.; Belyanskiy, L. B.;
Shibayeva, O. A.; Shubin, V. E. 2 3
8

ORG: none

TITLE: Alloyed germanium for low-temperature thermometry

SOURCE: Izmeritel'naya tekhnika, no. 1, 1966, 57-61

TOPIC TAGS: thermometry, germanium alloy, thermometer

ABSTRACT: The results are reported of an experimental investigation of the galvanomagnetic properties of Ge doped with various amounts of Sb; As; In; Ga; the Ge properties were studied in a range of temperatures from room to liquid helium in order to find out the best impurity and its concentration suitable for low-temperature thermometers. Most measurements were made with Sb-doped Ge

UDC: 546.289.001.5:536.531

Card 1/2

L 39557-66

ACC NR: AP6008780

whose Nd was $4.6 \times 10^{16} < Nd < 1 \times 10^{17}$ per cm^3 ; the resistivity was found to be 0.00042—0.00046 ohm·m at 20—4.2K; acceptor-impurity concentration, $Na < 0.1 Nd$. A few thermometers were made from Sb-doped Ge ($Nd = 5 \times 10^{16}$ per cm^3 , $K = 6\%$) for the 40—4.2K range; their resistivity was 0.025—0.027 ohm·m at boiling-helium temperature. The relation $lg \rho (1/T)$ was satisfactory for these thermometers only under 7K. A relatively high value of magnetoresistance of doped Ge is noted. Orig. art. has: 4 figures, 4 formulas, and 4 tables.

SUB CODE: 20, 09 / SUBM DATE: none / ORIG REF: 003 / OTH REF: 016

Card 2/2 HS

MOROZ, A.F.; SHIBAYEVA, I.V.

Acquired bacterial resistance to antibiotics from the erythromycin group. Antibiotiki 8 no.5:449-456 My'63 (MIRA 17:3)

1. Otdel infektsionnoy patologii i eksperimental'noy terapii infektsiy (zav. - chlen-korrespondent AMN SSSR prof. Kh.Kh. Planel'yes) Instituta epidemiologii i mikrobiologii imeni N.F.Gamalei AMN SSSR.

MOROZ, A.F.; SHIBAYEVA, I.V.

Effect of levomycetin and chlortetracycline on the dehydrogenase activity of staphylococci sensitive and resistant to these antibiotics.

Antibiotiki 9 no.3:232-238 Mr '64.

(MIRA 17:12)

1. Otdel infektsionnoy patologii i eksperimental'noy terapii (zav. - chlen-korrespondent AMN SSSR prof. Kh.Kh.Planel'yes) Instituta epidemio-logii i mikrobiologii imeni N.F.Gamalei AMN SSSR, Moskva.

MOROZ, A.F.; SHIBAYEVA, I.V.

Effect of levomycetin and chlortetracycline on the transaminase activity of staphylococci sensitive and resistant to these antibiotics. Antibiotiki 9 no.7:616-621 J1 '64.

(MIRA 18:5)

1. Otdel infektsionnoy patologii i eksperimental'noy terapii infektsiy (zav. - chlen-korrespondent AMN SSSR prof. Kh.Kh. Planel'yes) Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR, Moskva.

(A) L 11150-66 EWT(m)/EWP(j)/T/ETD(m) RPL WW/RM
ACC NR: AP6000336 SOURCE CODE: UR/0286/65/000/021/0035/0035

AUTHORS: Moiseyev, A. F.; Shibayeva, L. N. 44

ORG: none

TITLE: A method for obtaining varnish. Class 22, No. 176023 15 44 15

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 21, 1965, 35

TOPIC TAGS: varnish, copolymerization, heat resistance

ABSTRACT: This Author Certificate presents a method for obtaining varnish by alkaline copolymerization of phenyltrichlorsilane and dimethyldichlorsilane. To increase the heat resistance of the varnish, methylphenyldichlorsilane is added to the mixture being copolymerized.

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Crystalline structure of rosenbuschite $(\text{Ca}, \text{Na})_3(\text{Zr}, \text{Ti}) [\text{Si}_2\text{O}_7]$
 $(\text{O}, \text{F})_2$. Dokl. AN SSSR 143 no.6:1428-1431 Ap '62. (MIEA 15:4)
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(LIPIDS

histochem. analysis, current methods)

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Bibliographic index of principal manuals and journals on histo-chemistry.

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(MIEA 11:6)

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(TETRACYCLINE, eff.

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B.G. Yegorov) AMN SSSR, Nauchno-issledovatel'skogo laboratoriya
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(POLYSACCARIDES)

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